

Claims:

1. A spot welding gun (1) for the resistance welding of workpieces (1a), including a base body (2) and a bracket (3) on which electrode holders (6) carrying electrodes (7) are arranged, wherein at least one electrode holder (6) is fastened to an actuating means (5) via which the electrode holder (6) fastened thereto is displaceable together with one of said electrodes (7) in the longitudinal direction to a further one of said electrodes (7), wherein a winding device (9) including a strip (8) is each provided for the protection of the electrodes (7), which strip (8) is arranged to be displaceable relative to the electrode (7) between the contact surface of the electrode (7) and the workpiece (1a), and wherein the winding device (9) associated with the displaceable electrode (7) is connected with the displaceable electrode (7) so as to follow a longitudinal movement of said electrode (7), characterized in that the electrode holders (6) and the electrodes (7) comprise means for guiding the strip (8) from the winding device (9) axially along the electrode holder (6) to the electrode (7) and again axially along the electrode holder (6) back to the winding device (9).
2. A spot welding gun (1) according to claim 1, characterized in that the winding device (9) comprises a wind-off roller (10) and a wind-up roller (11) for the guidance of the strip (8) to the electrode (7) and back again to the winding device (9).
3. A spot welding gun (1) according to claim 2, characterized in that the wind-off roller (10) and/or the wind-up roller (11) are coupled with a driving means (12).
4. A spot welding gun (1) according to claim 3, characterized in that the driving means (12) is comprised of an electronically controllable motor.
5. A spot welding gun (1) according to any one of claims 2 to 4, characterized in that a braking device (13) is provided for the strip (8) to keep the strip (8) tight.
6. A spot welding gun (1) according to claim 5, characterized

in that the braking device (13) is controllable by a control device (14).

7. A spot welding gun (1) according to any one of claims 1 to 6, characterized in that a winding device (9) is arranged on the bracket (3) mounted on the base body (2) and a winding device (9) is arranged on the actuating means (5).

8. A spot welding gun (1) according to claim 7, characterized in that the bracket (3) has a C-shaped configuration.

9. A spot welding gun (1) according to any one of claims 1 to 8, characterized in that the actuating means (5) is comprised of a hydraulically, pneumatically or electromotorically controllable drive such as, for instance, a cylinder (15).

10. A spot welding gun (1) according to claim 9, characterized in that the cylinder (15) is comprised of a cylinder jacket (16), a piston (17) and a throughgoing piston rod (18), wherein the winding device (9) together with the strip (8) is adjustable via the piston (17) and the throughgoing piston rod (18), respectively.

11. A spot welding gun (1) according to claim 10, characterized in that the piston rod (18) comprises a guide or bore (19) which is provided axially to the piston rod (18) for guiding the strip (8).

12. A spot welding gun (1) according to claim 10 or 11, characterized in that the winding device (9) is arranged on the piston rod (18) on the side opposite the electrode (7).

13. A spot welding gun (1) according to claim 11 or 12, characterized in that the strip (8) for the protection of the electrode (7) extends from the wind-off roller (10) axially through a bore (19) provided in the piston rod (18) to the electrode (7) and, on the opposite side, again axially through the bore (19) provided in the piston rod (18) to the wind-up roller (11).

14. A spot welding gun (1) according to any one of claims 1 to

13, characterized in that a winding device (9) is rigidly arranged on the bracket (3).

15. A spot welding gun (1) according to claim 14, characterized in that the bracket (3) comprises a bore (20) provided axially to the electrode (7) for guiding the strip (8).

16. A spot welding gun (1) according to claim 14 or 15, characterized in that the winding device (9) is arranged on the bracket (3) on the side opposite the electrode (7).

17. A spot welding gun (1) according to claim 15 or 16, characterized in that the strip (8) for the protection of the electrode (7) extends from the wind-off roller (10) axially through a bore (20) provided in the bracket (3) to the electrode (7) and, on the opposite side, again axially through the bore (20) provided in the bracket (3) to the wind-up roller (11).

18. A spot welding gun (1) according to any one of claims 14 to 17, characterized in that a further actuating element (5) is arranged on the bracket (3), via which the electrode holder (6) fastened thereto, together with the electrode (7), is displaceable in the longitudinal direction to the further electrode (7).

19. A spot welding gun (1) according to claim 18, characterized in that the actuating element (5) is comprised of a cylinder (15) and a piston (17) as well as a piston rod (18) positively connected with the former are arranged within the cylinder (15).

20. A spot welding gun (1) according to any one of claims 14 to 17, characterized in that the bracket (3) is arranged to be displaceable via an actuating means (21) arranged in the base body (2).